A. Cover Sheet *(Attach to front of proposal.)*

1. Specify: ☐ agricultural project or ☒ urban project; ☒ individual application or ☐ joint application

2. Proposal title—concise but descriptive: Yucca Valley Water Conservation Program (toilet, graywater, and hot water recircualtion)

3. Principal applicant—organization or affiliation: Hi-Desert Water District - Yucca Valley

4. Contact—name, title: Lee Pearl, General Manager

5. Mailing address: PO Box 1210, Yucca Valley, CA 92286-1210

6. Telephone: 760.365.8333

7. Fax: 760.365.0599

8. E-mail: Leep@hdwd.com

9. Funds requested—dollar amount: $ 387,802

10. Applicant cost share funds pledged—dollar amount: $ 38,870

11. Duration—(month/year to month/year): August 2001 to August 2003

12. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted: Senate District: 31st and Assembly District: 65th

13. Location and geographic boundaries of the project: South central portion of San Bernardino County about 50 miles east of the City of San Bernardino. Encompasses the Town of Yucca Valley and adjacent rural areas (southern edge of Mojave Desert). District's total area is about 43 square miles.

14. Name and signature of official representing applicant. By signing below, the applicant declares the following:
- the truthfulness of all representations in the proposal;
- the individual signing the form is authorized to submit the application on behalf of the applicant;
- the applicant will comply with contract terms and conditions identified in Section 11 of this PSP.

Lee Pearl
(printed name of applicant)

Lee Pearl
(signature of applicant)

February 14, 2001
(date)

Scope of Work

Relevance and Importance

1. **Abstract** (Executive Summary)

Project and Methods

The Hi-Desert Water District (District) is located in the south central portion of San Bernardino County about 50 miles east of the City of San Bernardino, the seat of the County Government and is 30 minutes from the Coachella Valley (Palm Springs). The District, encompassing the Town of Yucca Valley and adjacent rural areas, is located in the high desert on the southern edge of the Mojave Desert. State Highway 62 provides primary access. The total area of the District is approximately 43 square miles.

Due to conservation efforts first implemented in 1989 by the District, water production per connection and water use per capita has decreased. According to the most recent Water Supply Master Plan prepared by Egan (1995), the District's per capita use is 0.15 acre feet per year (AFY). This may be one of the lowest water usages per capita in the State. Annual water usage per dwelling is estimated to be .286 acre feet (AF). The total current population the District serves is 24,342. There are currently 8,800 service connections in the District service area (about 9,546 residential and commercial units).

The proposed project would supplement current District water conservation programs as follows:

- Hire a part-time Conservation Technician to develop and administer the program and enhance current water conservation outreach efforts.

- Distribute free ultra low flush (ULF) toilets and showerheads to residential customers. Low-income customers, who are qualified under the District's current Low Income Credit Program, would also be eligible for toilet installation (up to $100) by a licensed plumbing contractor.

- Develop a "water-wise" new home program that provides a 50% rebate of the costs (excluding labor) for the installation of graywater and hot water recirculating systems.

- Develop a District recognition system for water wise homes using graywater and hot water recirculating systems. One part of the recognition system could be a gold medal awarded by the District to a "water-wise" home. This gold medal could be used when marketing the new property.

- The funding request for this program is $387,802 with a 10% cash match by the District, excluding "in kind services".

Objectives

District objectives include: 1) Permanent annual water savings in the District of over 24 million gallons; 2) Reduced nitrate pollution currently impacting three of the District's most productive water sources caused by septic system lack of maintenance and failures.

2. **Statement of Critical Need**

The District was formed as Yucca Valley County Water District in 1962 by combining the assets of several water companies. In 1977 a judgment determined that the Warren Valley Basin serving the District would only supply water for its projected population until about 1985. Water became the most important issue in the region. In 1992 the Court ordered the Warren Valley Basin Watermaster to report on an annual basis to the Court the water levels in the Warren Valley Basin and any matter that might impact the safe yield of that basin. As a result of these determinations and actions, the District has implemented one of the most comprehensive conservation programs in the State**.**

The District was one of the first in the State to implement strict landscape standards and water conservation programs. This occurred around 1990. This proposed program will supplement the existing water conservation programs (attached as Appendix A).

Consistency with plans

On March 21, 1990, the District passed Resolution 90-4 (Appendix B). This resolution requires all new homes to install ULF toilets and other water saving devices such as low-flow showerheads and flow restrictors on faucets.

Any property sold in the District is required to retrofit with the same water savings devices as new property. The District uses a contract inspector to insure all resale property complies with the resolution. Whenever a water account is transferred (e.g. change in tenant), the property must comply with the resolution. It should be noted that most of the property (90+%) in the District is pre 1990 construction. The District records the transfers and estimates approximately 4,000 toilets remain to be converted. This proposed program encourages voluntary compliance. It is anticipated that final compliance will occur over the next 10 years as water customers sell or transfer their property to new owners.

ULF toilets normally consume 1½ gallons for every flush as compared with 4-5+ gallons per flush of older conventional toilets. The difference results in a minimum savings of 3½ gallons for every flush. Based on a conservitive water savings assumption of 22 gallons of water saved per ULF toilet per day, there would be 8,030 gallons of water conserved per year in the greater Yucca Valley area.

3. **Nature, Scope, and Objectives of the Project**

The proposed project would supplement current District water conservation programs as follows:

State Water Project (SWP) water is an additional source of water for the greater Yucca Valley area. The service area of the District is located within Division 2 of the Mojave Water Agency (MWA). Division 2 has an entitlement of 7,257 AFY of SPW or 1/7 of MWA's allocation. The District has an entitlement to 59% (4,282 AF) of the amount

allocated to Division 2. The other participating agencies within Division 2 include Joshua Basin Water District, Bighorn-Desert View Water Agency, and the County of San Bernardino. Currently the District is the only water district recharging SWP water. This action reduces the impact of drought periods and reduces dependence on SWP water during droughts.

SWP water is imported via the Morongo Basin Pipeline, a $52 million project consisting of approximately 71 miles of 36 and 30 inch pipeline beginning at the California Aqueduct in Hesperia and terminating at a regulatory reservoir located at Warren Vista Avenue and Aberdeen Drive in Yucca Valley. The capacity of the pipeline is nearly 11,000 AFY allowing for delivery of additional water when available. In June 1990 more than a two-thirds of the voters approved the financing plan for the Morongo Basin Pipeline. In January 1995, the District started receiving SWP water via the Morongo Basin Pipeline and the 24 inch Hi-Desert Pipeline Extension from the terminating reservoir in Yucca Valley.

Residents of Yucca Valley are aware of the importance of water conservation. This proposed program would further reduce the dependency on SWP water thereby creating a beneficial impact on the Bay Delta.

Yucca Valley is not served by a wastewater system. Septic systems have polluted three of the District's primary wells and forced the need for a nitrate removal facility. Ultimately, the District will be required to connect the community to a wastewater system. The proposed program will improve water quality with the reduction of nitrate pollution.

Technical/Scientific Merit, Feasibility, Monitoring, and Assessment

4. **Methods, Procedures, and Facilities**

The District will use water savings data from accepted methodologies. California Urban Water Conservation Council's "A Guide to the Data and Methods for Cost Effectiveness Analysis of Urban Water Conservation Best Management Practices," July 2000 will be used for water savings formulas and calculations.

In 1991, the Court adopted the Warren Valley Basin Master Plan with a 2% growth rate scenario based on water demand. Increased water levels could be achieved by: 1) future interagency conjunctive uses using SWP water for recharge such as the District and MWA conjunctive use agreements; 2) the existing water users reduced their consumption voluntarily; 3) the District's plumbing retrofit program; 4) lower growth rates allowing additional Warren Valley Basin recharge. This proposed program will assist with increasing the water levels of the Warren Valley Basin.

5. **Schedule**

Quarterly Expenditure Projection

	Qtr 2	Qtr 3	Qtr 4	Qtr 5	Qtr 6	Qtr 7	Qtr 8
Installation	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$25,000
Technician	$2,352	$2,350	$2,350	$2,350	$2,350	$2,350	$4,700
Toilets	$37,500	$37,500	$18,750	$18,750	$37,500	$37,500	$37,500
Showerheads	$1,400	$700	$700	$700	$1,400	$700	$1,400
Graywater				$16,500			$16,500
Advertising	$1,000		$1,000		$1,000	$1,000	
Totals	$54,752	$53,050	$35,300	$50,800	$54,750	$54,050	$85,100
Grand Total							**$387,802**

Schedule of Tasks

Qtr	Due Date	Tasks & Deliverable Items	Projected Costs
	August 1, 2001	Project approved.	
	August 15	HDWD Board approval. Matching funds commitment letter. Letter of concurrence from local government environmental documentation.	
	August 20	Begin recruitment for Conservation Technician.	
	October 1	Hire Conservation Technician.	
	October 1 – November 1	Prepare program information.	
Qtr 1	November 1	First quarterly report.	Minimal
	November 30	First distribution toilets and showerheads (ongoing).	
	December 1	Graywater and recirculation program begins.	
Qtr 2	February 1, 2002	Second quarterly report.	$54,752
Qtr 3	May 1	Third quarterly report.	$53,050
Qtr 4	August 1	Fourth quarterly report.	$35,300
Qtr 5	November 1	First quarterly report.	$50,800
Qtr 6	February 2	Second quarterly report.	$54,750
Qtr 7	May 1	Third quarterly report.	$54,050
Qtr 8	August 1	Fourth quarterly ends.	$85,100
	August 8 - 30	Final report – total expended.	$387,802

6. **Monitoring and Assessment**

The conservation technician will report to a management employee in the District. A quarterly report will be completed by the technician and submitted to the responsible manager. The report will include the stated quarterly goals and show District expenditure and activity data. The report will include the number of public presentations. Information

will be stored on: 1) the District's computer system with daily data backup, and 2) written reports maintained by the technician. The information will be available to the public and grantor as needed. Quarterly reports will be submitted to the grantor.

Outreach, Community Involvement, and Information Transfer

1. **Outreach Efforts**

Compared to Bay Area communities, Yucca Valley serves a much lower income sector. For the region, median home values are lower than most of San Bernardino County and the nearby Coachella Valley, and much lower than the Bay Area. Median home values are below $120,000 and a home in the range of $100,000 is easily attainable.

The program would serve all income levels. The District currently offers a credit to low income residents in the 80% of poverty income. In order to successfully implement this proposed program, low income residents would qualify for installation up to $100 for the ULF toilets. Any tribal entities within the District would qualify for the program.

2. **Training, Employment, and Capacity Building Potential**

Most individuals participating in the program will perform the plumbing improvements. Upon request by program participants, the District's conservation technician will provide a list of licensed plumbers. Licensed plumbers or other professionals employed within the community will complete low income residents' installations. It would be unusual for these professionals to come from outside the District because of the isolated location of the community.

3. **Plan for Dissemination Information**

Outreach will use current systems including: Internet (www.hdwd.com), local cable television (District board meetings and work sessions are broadcast on the local cable channel), newsletters, bill inserts, and the local radio and newspaper.

The greater Yucca Valley area has one radio station and one newspaper (twice weekly). These media will help create interest in the program and promote the water conservation and financial benefits to the homeowners.

The conservation technician will provide outreach to include service clubs, schools, other groups, and the town of Yucca Valley government.

4. **Letter to Cooperating Agencies**

Attached, as Appendix C, is a letter informing the Town of Yucca Valley of this application.

Qualifications of the Applicants, Cooperators, and Establishment of Partnerships

1. **Resume of Project Manager**

The resume of the Project Manager is attached as Appendix D.

2. **External Cooperators**

External cooperators will be used for the project. The District will use relationships and information dissemination systems at the Town of Yucca Valley, service organizations, local media, and local cable television to promote and support the proposed project.

3. **Partnerships**

The graywater portion of the project will include local realtors and residential homebuilders. They will be included in the development of the program to recognize water wise homes using graywater and hot water recirculating systems. This could be a Gold Medal "water-wise" home recognized by the District, which could be used when marketing the new property.

Costs and Benefits

1. **Budget Summary and Breakdown**

Year 1

Item	**Number**	**Cost**	**SubTotal**	**Total**
Salaries and Wages				
Part-time Conservation Technician	1040 hrs	$8/hr	$8,320	
Fringe Benefits				
Benefits for Technician (13%)	1		$1,081	
Supplies				
ULF Toilets	1,500	$75	$112,500	
ULF Showerheads	500	$7	$3,500	
Other				
Installation (low income customers)	500	$100	$50,000	
Graywater & water recirculation incentives	15	$1,100	$16,500	
Advertising			$2,000	
Total Grant for First Year				$193,901
Less District Cash Match (10%)				-$19,390
Total CALFED Request				**$174,511**
District In-Kind Services				
Clerical Support	80hrs	$18/hr	$1,440	
Benefits for Clerical Support (13%)			$576	
Asst to the General Manager	100 hrs	$35/hr	$3,500	
Benefits for Asst to GM (40%)			$1,400	
Supplies			$3,000	
Total District In Kind Services				$9,916

Year 2

Item	Number	Cost	SubTotal	Total
Salaries and Wages				
Part-time Conservation Technician	1040 hrs	$8/hr	$8,320	
B*enefits*				
Benefits for Technician (13%)	1		$1,081	
Supplies				
ULF Toilets	1,500	$75	$112,500	
ULF Showerheads	500	$7	$3,500	
Other				
Installation (low income customers)	500	$100	$50,000	
Graywater & water recirculation incentives	15	$1,100	$16,500	
Advertising			$2,000	
Total Grant for Second Year				$193,901
Less District Cash Match (10%)				-$19,390
Total CALFED Request				**$174,511**
District In-Kind Services				
Clerical Support	80hrs	$18/hr	$1,440	
Benefits for Clerical Support (13%)			$576	
Asst to the General Manager	100 hrs	$35/hr	$3,500	
Benefits for Asst to GM (40%)			$1,400	
Supplies			$3,000	
Total District In Kind Services				$9,916

2. **Budget Justification**

Labor costs are for a part time Conservation Technician 1,040 hrs/year and benefits. All other labor costs will be "in kind" and absorbed by the District. Supplies and travel are "in kind" and absorbed by the District. Equipment expenses will be for the purchase of toilets and low flow showerheads. Other budgeted CALFED funds are for reimbursement to the property owner upon the completion of the work, verified by receipt and inspections by the District. Advertising expenses funded by CALFED will be for local radio, newspaper, and possibly cable television.

3. **Benefit Summary and Breakdown**

The expected primary benefit of the program is water savings. A permanent water savings will reduce the District's supply needs and less dependence on SWP water, especially during drought periods. The actual savings will be 25+ million gallons per year or 6-7 days of winter water demand for the entire District. Using standard industry information of 21 gpd for low water toilets and 5.5 gpd for showerheads, the 2 year project will exceed 25 million gallons annually. This calculation is based upon the California Urban Water Conservation Council data.

Greywater and water recirculation system data will be based on actual installations. Because this is considered a pilot program, the number of installations have been estimated. The actual water savings of the program will be in addition to the estimate for the toilets and showerheads. This conservative approach allows projections for the overall program to exceed those shown in this proposal. Also, toilet leaks are not part of the projections. Studies show that new fixtures will replace a percentage of leaking fixtures. This water savings can be significant.

The customers of the District will see a monetary benefit. Calculated at the lowest District water rate tier ($1.55 per one hundred cubic feet), customers will save in total $52,000 per year. Since the District uses a tiered system ranging from $1.55-$6.70 per one hundred cubic feet, the actual savings will in fact be greater.

Other financial and employment benefits will be to plumbing contractors and local suppliers of the toilets, showerheads and other hardware. Homebuilders will also be reimbursed for 50% of the installation costs of the graywater and water recirculation systems.

4. Assessment of Costs and Benefits

Assumptions

There are three assumptions for this proposed project:

1. Customer demand for the retrofit equipment equals the request in the grant proposal.
2. Graywater and water recirculation systems would be reviewed through the Town of Yucca Valley Building Department.
3. Water savings in the District would equal or exceed the methodology from the California Water Conservation Council.

Present Value of the Quantified Costs and Benefits

All costs in this proposal budget are expressed in 2001 dollars. The proposed budget assumes no changes in year two. The District will prepare a two year bid to reduce any cost changes for toilets and showerheads. Salaries and rebates will also remain constant throughout the grant period. Cost savings to customers for water has been shown in one conservative amount.